UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,553	06/18/2001	Robert Wastlhuber	56/353	2380

7590 01/26/2007		EXAMINER
JOHN C. FREEMAN		QURESHI, AFSAR M
BRINKS HOFER GILSON & LIONE		

P.O. BOX 10395	ART UNIT	PAPER NUMBER
CHICAGO, IL 60610	2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	**Applicant(s)**
Office Action Summary	09/884,553	WASTLHUBER ET AL.
	Examiner	**Art Unit**	
	Afsar M. Qureshi	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2006*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,4,5,7,8,12-14,16-21,23-28,36,38-45,47,48 and 50-55* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,4,5,7,8,12-14,16-21,23-28,36,38-45,47,48 and 50-55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

Response to Amendment

1.   This action is responsive to amendments received on 11/13/2006. Claims 1, 3, 6,

9-11, 15, 22, 29-35, 37, 46 and 49 remain cancelled in the Application. Claims 2, 4, 5, 7,

8, 12-14, 16-21, 23-28, 36, 38-45, 47, 48, 50-55 remain in the Application. Amendments

to claims 2, 4, 5, 7, 12, 14, 16-18 and 23-25 are entered as requested.

Response to Arguments

2.   Applicant's arguments filed on 11/13/2006 have been fully considered but they

are not persuasive. Some of the arguments were addressed in the previous "Response

to Arguments" section (5/23/2006, 10/28/2005).

Applicant repeats the argument that Rehm et al. (US 5,909,371) is silent whether

the data during periods RZ1 and RZ2 regards transmitted up-to-date position data.

However, the Examiner contends, as in the previous response dated 8/10/2006, that the

data between RZ1 and RZ2 is an 'updated' data, as is evident from col. 3, lines 45-61,

and one of ordinary skill in the art can realize that it can be regarded as claimed "up-to-

date position data".

Applicant further maintains the argument that the word "*always*" was omitted in

the rejection of claim 1 (now in claim 22). As responded to in the previous "Response to

Argument", 8/10/2006, that it is evident from col. 2, lines 42-53 (Rehm), the not time-

critical data is only interrupted to pass critical data and then *always* resumes the

pending other non-time-critical computer processes immediately after.

In reference to claims 24 and 26, Applicant argued that Lennartsson does not disclose nor suggest the *particular position request commands*. Both claims 24 and 26 are concerned with *first position request command* and *second position request command* and *levels of priority data*. Lennartsson teaches 'the ability of assigning different levels of priority to a message, and messages are processed in the order of assigned priority (col. 7, lines 1-24). Lennartsson further teaches issuing the assigned priority levels position request command (see col. 16, lines 67 through col. 17, lines 1-45).

On page 15, of the Argument/Remarks, Applicant argued that 'none of the cited art disclose or suggest the recited *interrupting* and *transmitting*'. However, all cited references are concerned with interrupting the process so that the time-critical computing processes can be processed immediately, for instance, Rehm at col. 1, lines 39-45 or col. 2, lines 41-46 and similarly, Hagl at col. 5, lines 61 through col. 6, lines 1-10. Same arguments were presented in reference to claims 36, 38-45, 47, 48 and 50-55 (and the remaining claims). The Examiner maintains that all the limitations are taught by the cited references taken alone and in combination.

The rational to modify or combine the prior art does not have to be expressly stated in the prior art; the rational may be, expressly or impliedly, revealed from knowledge generally available to one of ordinary skill in the art, established scientific principles or legal precedent established by prior case laws. *In re Fine, 837 F.2d 1071, 5USPQ2d1596 (*Fed. Cir. 1988), and, *Ex Parte Levengood, 28 USPDQ 2d 1300.* All

those variations in the alternative structure that fall within the scope of this invention can

readily be conceived by one of skill in the art.

Claim Objections

3.   Claim 13 is objected to because of the following informalities:

Claim 13 is incorrectly dependent on rejected claim 11. Appropriate correction is

required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

4.   Claims 2, 4, 5, 7, 8, 16-21, 23, 24, 26, 28, 36, 38-45, 47, 48, 50-55 rejected

under 35 U.S.C. 103(a) as being unpatentable over Hagl et al. ('Hagl'), US 5,687,103 in

view of Rehm et al. ('Rehm), US 5,909,371 and in further view of Kent Lennartsson (US

5,371,859)

Regarding claims 2, 23, 24, 26, 36 and 47

Hagl discloses a method or device for serial data transmission between a

position measuring system and a processing unit (See Fig. 1, blocks 100 and 400, RZ1-

2, R12, R13, R11 processors), comprising: transmitting position data and further data

from said position measuring system to said processing unit in serial form as digital data

words (*Measuring device transmit the angle position as a binary data word to the*

processing unit. See column 3, lines 3-6); transmitting up-to-date position data between

said position measuring system and said processing unit upon transmission of a

position request command (commands from the processing units are sent to the

position measuring device to retrieve current data. Status command A is used in the

example of this reference. See column. 3, lines 40-54 and 58-64).

Hagl, however, fails to disclose always transmitting further data, whose

processing is *not time-critical*, immediately following said transmitting said up-to-date

position data.

Rehm, in the same field of endeavor, discloses the process of data, whose

processing is not time-critical, immediately following said transmitting the up-to-date

position data (Figure 2. RZ1 and RZ2 are time critical data. Non-time critical data of FZI

always immediately follow time critical data in figure 2).

As to claims 23, 24 and 26, Hagl and Rehm, in combination, fail to specifically

disclose that different position request commands can be assigned with different

processing priorities.

However, Lennartsson teaches the ability of assigning different levels of priority

to a message and messages are processed in the order of assigned priority levels (See

column 7, lines 10-24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hagl and Rehm method to process non-time-critical, immediately following transmitting said up-to-date position data or that of different priority levels to position request commands, the motivation being that by transmitting non-time-critical immediately following the transmitting said up-to-date position data, bandwidth would not be wasted between time critical transmission between the 2 devices.

Regarding claim 4

Hagl discloses the method, wherein said further data is transmitted between the position measuring system and the processing unit (See Fig. 1, blocks 100 and 400).

Rehm discloses the method, in accordance with claim 1, further comprising transmitting a position request command for requesting said up-to-date position data (Column1, lines 16-24. Figure 2. RZ1 and RZ2 are time critical data) and always transmitting immediately following said position request command, further data (Non-time critical data of FZI immediately follow time critical data in figure 2) whose processing is not time-critical.

Regarding claims 5 and 7

Hagl discloses that said up-to-date position data and said position request command is transmitted in the form of digital data words of a pre-determined word length, or as data packets comprising digital data words (Sampling signals are amplified and converted into digital signals for a binary word. See column 3, lines 3-12).

Regarding claim 8

Hagl discloses that additional non-time-critical data comprises additional data
and additional data commands (beside the position data, there is also other data
request commands and other corresponding data to these data requests like status
commands and their responses to commands A-F. See column 3, lines 59-67; See
column 4, lines 1-42).

Regarding claim 16

Hagl discloses the method wherein all data transmitted between the position
measuring system and the processing unit is transmitted over a common data channel
(See column 2, lines 23-24).

Regarding claim 17

Hagl discloses the method wherein data transmitted from said position
measuring system to said processing unit are transmitted via a first data channel, and
said data transmitted from said processing unit to said position measuring system are
transmitted via second data channel (See Fig. 1, lines 500).

Regarding claims 18 and 19

The disclosed by Hagl further comprising storing said non-time-critical data (See
Fig. 1, block 900; See column 4, lines 1-2).

Regarding claim 20

Hagl discloses the method that further comprises the steps of storing non-time-
critical data transmitted by said position measuring system in a second memory unit of

said processing unit (status command D can be used to send saved parameters at the

processing unit to the position measurement device (see column 4, lines 33-35).

Regarding claim 21

Hagl discloses the method, further comprising transmitting memory unit status

data, which contain at least information regarding an actual memory status of a memory

unit (using command B, one can read or write data into memory. See column 4, lines 1-

21).

Regarding claim 28

Hagl discloses the method including steps wherein with said transmitting of either

of said digital data words or data packets, a data word identification is transmitted,

which unequivocally identifies a beginning and type of digital data word or data packet

(start bit is used to identify the beginning of the word. Different types of parameters

were also described. See column 4, lines 36-37, 55; See column 5, lines 25-26; See

column 6, lines 53-67).

Regarding claims 38 and 50

Rehm discloses the method in accordance with claim 36, wherein parameters of

said position measuring system are transmitted via said non time-critical signals

(Column 1, lines 25-30).

Regarding claims 39 and 51

Rehm discloses the method, in accordance with claim 36, wherein measured

temperature values are transmitted via said non-time-critical signals (Column 1,lines 28.

Non-critical signals can be many things like indicated by line 28 of column 1. This can

be understood as temperature reading).

Regarding claim 40 and 52

Rehm disclosed the method in accordance with claim 36, wherein diagnostic

data of said position measuring system are transmitted via said non-time-critical signals

(Column 1,lines 28. Non-critical signals can be many things like indicated by line 28 of

column 1).

Regarding claims 41 and 53

Rehm discloses the method in accordance with claim 36, wherein assignment

information is transmitted or processed with each of said non-time-critical signals

(Column 1,lines 28. Non-critical signals can be many things like indicated by line 28 of

column 1).

Regarding claim 42

Rehm disclosed the method .in accordance with claim 36, further comprising

requesting, via said processing unit, transmission or process of said non-time-critical

signals from said position measuring system (Column 1, lines 16-30).

Regarding claim 43 and 54,

Hagl and Rehm disclosed a method or device for serial data transmission

between a position measuring system and a processing unit as described in claim 1

above.

Regarding claims 43 and 54

Hagl discloses data transmitted as a binary data word between the position-measuring

device and the processing unit (See column .3, lines 3-6).

Regarding claim 44

Rehm disclosed the method in accordance with claim 4, wherein data transmitted

from said position measuring system to said processing unit are transmitted via a first

data channel (Figure 1. Column 1, lines 50-55), and said data transmitted from said

processing unit to said position measuring system are transmitted via a second data

channel (Figure 1. Column 1, lines 50=55).

Regarding claim 45

Rehm disclosed the method in accordance with claim 36, wherein up-to-date

position data always occurs, between said non-time critical signals (Figure 2. RZ1 and

RZ2 are time critical data, processed between non-time critical data of FZI as indicated

in figure 2).

Regarding claim 48

Rehm disclosed the system in accordance with claim 47, further comprising:

A first data channel in communication with said position measuring system and said

processing unit and transmitting data from said position measuring system to said

processing unit (Column 1, lines 16-25; Column 3, lines 50-55); and a second data

channel in communication with said position-measuring system and said processing unit

and transmitting data from said processing unit to said position-measuring system

(Column 1, lines 16-25; Column 3, 'lines 50-55).

Regarding claim 55

Rehm disclosed the method in accordance with claim 36, wherein said non-time-critical

signals are chronologically distributed over several blocks (Figure 2, FZI blocks).

5.   Claims 12-14, 25 and 27 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hagl in view of Rehm and Lennartsson, and in further view of Kurten

(DE 4005087 Cl).

Regarding claims 12-14   In addition to limitations discussed in the rejection of

claims 2, 23,... above, the combined invention of Hagl, Lennartsson and Rehm disclose

a method or device for serial data transmission between a position measuring system

and a processing unit as described in the rejection of claim 1 above.

        Hagl, Lennartsson and Rehm, however, fail to disclose the ability of interrupting

the transmission of non-time-critical data upon detecting a position data request

command.

        Kurten teaches the ability of immediately interrupting processing a current

process in responding to a more priority processing command and continuing with the

current process once the more priority or urgent processing command is completed at a

later time (See column 2, lines 38-42).

        It would have been obvious to one having ordinary skill in the art at the time the

invention was made to incorporate the interrupting feature as taught by Kurten into the

combined invention by Hagl and Rehm. Thus, by incorporating the interrupting feature,

a more urgent data can be responded immediately for parameters that are time

sensitive on a priority basis and continuing with the non-time sensitive at a later time.

Regarding claims 25 and 27

Hagl and Rehm disclose a method or device for serial data transmission between

a position measuring system and a processing unit as described in the rejection of claim

1 above. Hagl and Rehm, however, fail to disclose the ability of interrupting the

transmission of non-time-critical data upon detecting a position data request command

and fail to disclose different position request commands can be assigned with different

processing priorities. Kurten teaches the ability of immediately interrupting processing a

current process in responding to a more priority processing command and continuing

with the current process once the more priority or urgent processing command is

completed at a later time (See column 2: lines 38-42). Kurten is silent about assigning

different levels of priority to a message that are being processed in the order of

assigned priority levels.

However, Lennartsson teaches the ability of assigning different levels of priority

to a message and messages are processed in the order of assigned priority levels (See

column 7, lines 10-24).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to incorporate the interrupting feature and to assign different priority

levels in order to position request commands as taught by Lennartsson. It would have

motivated one skilled in the art, to be able to stop the current process and proceed with

a more urgent and more priority request for a more time sensitive parameter.

6.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should.be directed to Afsar M. Qureshi whose telephone number is (571) 272

3178. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Field Lynn can be reached on (571) 272 2092. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AFSAR QURESHI
PRIMARY EXAMINER
1/22/2007